What you don't know can hurt you: Social comparison on Facebook

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Abstract

Research indicates that people can be negatively affected by upward social comparisons. An upward social comparison involves comparing oneself to the positive evaluation of an external stimuli, that one perceives to be better in particular domains, and adjusting ones self-evaluation based on that comparison (Kenrick, Neuberg, & Cialdini, 2010). Upward social comparisons made online may exacerbate this effect owing to the increased avenues for selective self-presentation that most online communication offers. That is, most online venues such as Facebook allow people more opportunities to show the best side of themselves-flattering pictures or positive status updates-than the opportunities available in face-to-face interactions. The current study investigated whether an awareness of other's ability to self-present online can attenuate the negative effects of upward social comparisons made on Facebook. The current study employed a 3 (Instruction type: Accurate vs. Inflated vs. Control) × 2 (Social Comparison: Upward vs. Downward) between-participants design. Participants in the Inflated Instruction condition, were informed that people self-present on Facebook while those in the Accurate Instruction condition were informed that self-presentation on Facebook is unlikely. An additional control condition did not include self-presentation information. Participants then rated a fictitious Facebook profile intended to induce either an upward or downward social comparison. Personal information—social relationships, monetary potential and intelligence—in the Facebook profiles was manipulated to emphasize a positive or neutral profile to induce the intended social comparison. After viewing the profile, all dependent measures including: state self-esteem, perceived fairness of life, and evaluations of the target and the subject were assessed. We hypothesized that participants aware that others are likely to self-present online will report greater positivity about themselves on all dependent measures than participants who are informed that self-presentation

online is unlikely or who are given no information about online self-presentation. We do not expect to find a significant difference between participants who were informed that self-presentation is unlikely online and participants not given any self-presentation information. Making an upward social comparison on Facebook can lead to negative self-views in several domains including intelligence. The current study is one of the first studies to experimentally manipulate social comparison processes on Facebook and therefore shed light on how social comparison processes operate in online environments.

What you don't know can hurt you: Social comparison on Facebook

Communicating with peers online has become increasingly prevalent. Over fifty percent of people communicate with others online more often than face-to-face (Battishill, 2011) and the majority of this communication occurs on social networking web sites, such as Facebook (Lenhart, Purcell, Smith, & Zickuhr, 2010; Madden, 2010). Facebook, one of the largest social networking sites, has over 720 million users—over ten percent of the global population (Facebook, 2012)—that spend almost 60 minutes on Facebook per day (Facebook, 2010; Hepburn, 2010). Given the rise in online communication, understanding how social comparison processes online may differ from traditional face-to-face communication is paramount.

Research indicates that comparing the self to others can affect one's self-esteem and mood (Alicke & Zell, 2010; Gilbert, Giesler & Morris, 1995; Klien, 1997; Mussweiler, Ruter, & Epstude, 2004). However, little research has experimentally investigated how this comparison process may operate in online venues, such as Facebook, where opportunities for self-presentation are increased. Due to the large number of users, extended amount of time each user spends on Facebook, and the increased self-presentation options, social comparisons taking place on these new media venues may operate differently compared to those occurring face-to-face. New technologies, such as Facebook, may be particularly well suited for self-presentation as they increase peoples' ability to selectively self-present across multiple media modalities. Selective self-presentation is the idea that people choose to show only positive qualities of their lives. This can be done on Facebook through pictures, writing, and displayed preferences. As a consequence of this selective self-presentation, Facebook users may have a greater likelihood to make

inaccurate evaluations about others, potentially causing inappropriate upward social comparisons. The current study investigated whether an awareness of other's opportunities for self-presentation on Facebook attenuates the negative effects of upward social comparisons.

Social Comparison

People learn about themselves in a variety of ways, one way is for them to socially compare themselves to others. This social comparison process can happen very quickly and often subconsciously. Research has shown that a person's self-esteem and perceived fairness of life is affected when they make social comparisons (Alicke & Zell, 2010; Chou, 2012; Gilbert, Giesler & Morris, 1995; Klien, 1997; Mussweiler, Ruter, & Epstude, 2004). A person's self-evaluation in certain domains is affected when they socially compare themselves to others (e.g., their intelligence, monetary earnings and social relationships). Social comparisons involve comparing oneself to the evaluation of an external stimuli and adjusting ones self-evaluation based on that comparison (Kenrick, Neuberg, & Cialdini, 2010). People learn about themselves through social comparison by comparing their talents, thoughts, actions, and beliefs with others (Kenrick et al., 2010). People socially compare themselves to others with little cognitive effort or awareness. Research has found that a social comparison can occur even when people recognize the comparison is reasonably inaccurate (e.g. comparing a skill set that you have not been trained on with someone who has been trained in the particular skill set); however, this inaccurate social comparison was only found in people who were made cognitively busy (Gilbert, Giesler & Morris, 1995). Due to the spontaneity and effortless nature of the social comparison process, both upward and downward social comparisons often develop unnoticed (Gilbert et al., 1995). An upward social comparison occurs when people compare themselves to others that they perceive as better in particular comparison domains—often leading to negative feelings. A downward social

comparison occurs when people compare themselves to others that they perceive as worse in particular comparison domains—often leading to positive feelings. Downward social comparisons may occur as a form of self-enhancement leading to reductions in stress and increases in self-esteem (Kenrick et al., 2010). The current study evaluated the extent that a person's self-esteem was affected by both an upward and a downward social comparison.

The social comparison effects can be more or less likely to occur depending on certain qualities of the target and the subject. Researchers have found that the amount of similarities and differences a person and a target share alters the social comparison process. For example, if a person is made to focus on the similarities between themselves and the target, an assimilative social comparison is more likely to occur. An assimilative social comparison involves evaluating the external stimuli as being similar to oneself and basing the comparison and new evaluation of the self on that similarity. Conversely, if a person is made to focus on the differences between themselves and the target, a contrast social comparison is more likely to occur. A contrast social comparison involves evaluating an external stimuli to be different than oneself and basing the comparison and the new evaluation of the self based on those differences (Mussweiller, Ruter, & Epstude, 2004). Researchers found that people prefer to compare their opinions and abilities with people they find to be similar to themselves rather than dissimilar (Kenrick et al., 2010). Therefore, women are more likely to compare themselves to other women then to other men. The current study involved gender specific profiles to increase similarities and decrease differences between the target and the subject to further aid the development of a social comparison.

The environment a person is in also affects the social comparison process. Researchers found that high performing students at academically inferior schools evaluate themselves more favorable than low performing students at academically superior schools (the frog-pond effect;

Alicke & Zell, 2010). Although the students may be doing the same work in each school, their comparison group dictates how they view themselves and their work. While we have learned a great deal from research examining social comparisons that occur face-to-face, relatively little research has examined how these processes might operate online.

Online Communication

Prior research indicates that online communication can significantly affect evaluations by peers (Donn & Sherman, 2002). For example, individuals report increased effort is necessary to be fully understood by others online compared face-to-face interactions. It has been suggested that the increased difficulty in being understood online compared to face-to-face is due to the absence of nonverbal cues such as facial expressions, body language and, gestures. Without non-verbal cues, the user has more difficulty communicating the mood of a message, getting across an idea of individuality, of dominance or charisma (Donn et al., 2002). People who communicate online sometimes report their interaction partner as more self-centered than those who communicate face-to-face (Okdie, Guadagno, Bernieri, Geers & Mclarney-Vesotski, 2011). Additionally, people may underestimate their overall contribution during online conversations. However, in face-to-face interactions, where nonverbal cues are significantly more prevalent, the person has more communication channels with which to express emotion. Thus, people report increased oneness and liking for those with whom they communicate face-to-face compared to online (Okdie et al, 2011). However, people reported having greater difficulty finding and sustaining topics to discuss in face-to-face interactions than in online communication (Okdie et al, 2011). Due to the lack of nonverbal cues, there is an increased level of control over the information shared in online environments. Therefore, people may tend to share information that presents them in a more flattering light than if those nonverbal cues were available. They may

choose to present only positive information about themselves or include only pictures of themselves looking their best. This filtering of information may affect the way a person is evaluated by forcing comparisons to be made using only the available information selected by the interactants leading to potentially inaccurate social comparisons.

Online Social Comparison

The limited available research examining online social comparison suggests that it operates similarly to face-to-face comparisons (Hafercamp, 2011; Klein, 1997; Gilbert et al., 2011); however, there are some significant differences. One difference between online and face-to-face social comparisons is the information on which people base their comparisons. When engaging in a face-to-face social comparison, people utilize perceived information such as facial expressions, body language, or environment. However, in the majority of online contexts (i.e., text-based) the observer must rely on the limited information that is received from the target. For example, when a person is viewing the online profile of someone they have never met, they are only able to see the information selectively disclosed by the profile's owner, such as positive status updates and flattering pictures. In many cases, the observer must base their social comparison on this limited set of information.

Past research indicates that when people socially compare themselves to others on Facebook depressive symptoms can arise, but only when the person ruminates about the online social comparison (Feinstein et al., 2013). The negative emotions resulting from upward social comparisons can be attenuated when the comparison domain is deemed nondiagnostic (Gilbert, Giesler & Morris 1995). Thus, although upward social comparisons can result in negative emotions, the process can be undone and the emotions can dissipate. Seeing that it is possible to undo the negative effects of social comparison, it is important to determine what type of situation can cause the

participant to regard the comparison as irrelevant. This depends on how the subject regards the target and the information they are using to make the comparison. Due to the fact that the current study used Facebook to induce upward and downward social comparisons, it is also important to examine the different effects online social comparisons can have on people, how it can potentially make them feel, and the possible repercussions of inducing inaccurate social comparisons.

Self-presentation

Self-presentation is the process by which a person attempts to display a desired self image to an observer (Kenrick, Neuberg & Cialdini, 2010). Self-presentation occurs daily owing to its ease and is typically done in attempt to show the best aspects of one's life; it is rarely done in a malicious or deceitful manner (Kenrick et al., 2010).A person might engage in self-presentation to obtain desired goals from another person (Kenrick et al., 2010). For example, when interviewing for a desired job, the interviewee will spend much of the interview self-presenting in an attempt to convince the interviewer that they deserve the position. This same level of self-presentation is less likely to occur when a person meets an old friend for lunch. Therefore, the social context may dictate the extent to which self-presentation occurs. Prior research suggests that when people feel the need to engage in self-presentation, in order to obtain a desired goal, they experience higher levels of anxiety than people driven by motivation-the desire to perform well and receive the promised incentive (Geukes, Mesagno, Hanrahan, & Kellmann, 2013). That is, people whose performance was evaluated based on self-presentation abilities experienced more anxiety than those whose performance was based on the desire to perform well. Furthermore, performance was significantly more negatively affected in people who had a greater fear of negative evaluation (Geukes et al., 2013).

Self-esteem also plays a role in self-presentation tendencies. Researchers suggest that people of all self-esteem levels participate in decisive self-presentation if attempting to compensate for a negative self-image (Hermann & Arkin, 2013). However, people with low or moderate self-esteem tend to exhibit self-protection in order to compensate for this negative self-image; whereas, people with high self-esteem exhibit self-enhancement in order to compensate for a negative self-image (Hermann et al., 2013).

There could be several variables that moderate effects of self-presentation and comparison online, including gender, and amount of time spent on Facebook. For example, men may self-present to appear dominant, resourceful and kind; whereas, women may self-present to appear physically appealing (Guadagno, Okdie & Kruse, 2011). Moreover, men are more willing than women to be deceptive in their self-presentation when they anticipate a romantic interaction (Guadagno et al., 2011). The tendency to deceptively self-present is more likely to increase in online contexts than in face-to-face interactions (Guadagno et al., 2011). Some online venues, such as Facebook, create an environment highly conducive for self-presentation by affording people the opportunity to control what aspects of their lives they share through a variety of media modalities such as pictures, posts, pages liked, and locations visited. This selective self-presentation can affect social comparison processes by potentially resulting in an inaccurate evaluation of another's life which can induce an unnecessary upward social comparison and therefore potentially create unwarranted negative thoughts or feelings. Past research indicates that chronic Facebook use may lead to feelings that life is unfair and that others are happier (Chou & Edge, 2012). The current study could potential explain this finding and provide a way to negate these negative emotions.

Current Study

Little research examined the affect online self-presentation has on the social comparison process. The current study investigated if the awareness of others self-presentation opportunities affects how people evaluate and compare themselves to others. We anticipate that participants aware of others ability to self-present on Facebook (Inflated Instruction condition) will be significantly less affected by the induced social comparison than the participants given no information of the self-presentation tendencies of others (No Instruction condition). Moreover, we expect that participants viewing a Facebook profile designed to induce an upward social comparison will report more negativity on the dependent measures compared to participants in the downward social comparison condition. Finally, we anticipate that participants who are told that individuals are unlikely to self-present on Facebook (Accurate Instruction condition) who made upward social comparisons will report significantly more negativity on the dependent measures compared to participants in the Inflated and No Instruction conditions who made upward social comparisons (See Figure 1). We do not expect to find a significant difference between genders in the social comparison process. Research indicated that both genders participate in social comparison in similar ways. We chose to include gender specific profiles to increase similarity between the participant and the target making social comparison more likely to occur.

Figure 1. Predicted Results by Condition

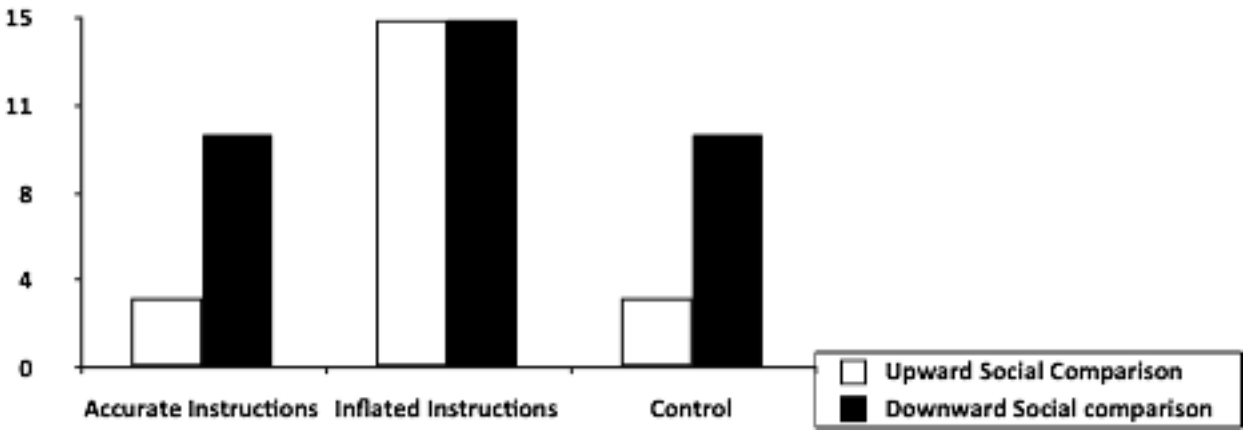

Figure 1.

Method

Participants

Two hundred and fifty-one students (108 males and 143 females) from Ohio State University Newark campus enrolled in Psychology 1100 participated for partial course credit. Participants' age ranged from 18-45, with a mean age of 19 (*SD* = 3.33). Participant's ethnicity was self-reported: 100 were Caucasian, 10 were African American, and 15 identified as Other. Participants were removed from the analyses if they stated information that was not consistent with the study, indicating the participant did not understand the study.

Design

This study employed a 2 (Social Comparison: upward vs. downward) ×3 (Instruction Type: inflated vs. accurate vs. control) between-participants design.

Procedure

Upon arrival into the lab participants were presented with a series of questionnaires that measured how frequently and intensely they view Facebook, how similar their online and offline selves are, the amount they compare themselves to others and the extent to which they use Facebook to make these comparisons. For example, to what extent do you agree with the following

statements: “I always pay a lot of attention to how I do things compared to how others do things,” “I have tried to cut down on the use of Facebook without success,” “Facebook is part of my everyday activity” and “I use Facebook to determine whether I am different than others.”

In order to hide the true intentions of the study from the participants, we employed a cover story. Our cover story informed participants that they would review and rate a Facebook profile, and that their ratings would be compared with the target’s friend’s ratings to determine if strangers are able to obtain accurate evaluations of a person’s personality and quality of life through Facebook. Moreover, participants were informed that people with certain characteristics are more accurate judges of personality than others. This was done to provide a reason for why participants were asked to report their personality characteristics and to ensure participants reviewed the profile in detail.

Participants were randomly assigned to one of the three instruction conditions: Inflated, Accurate, and Control. Each instruction condition informed the participant about self-presentation tendencies online. In the Inflated Instruction condition, participants were informed that people self-present online and that Facebook is an inaccurate measure of someone’s life. In the Accurate Instruction condition, participants were informed people do not self-present online and that Facebook is an accurate measure of someone’s life. Participants in the control condition were given no information on self-presentation (See Appendix A for full instructions).

Participants were randomly assigned to view one of four gender congruent fictitious Facebook profiles designed to induce an upward or downward social comparison. Each profile varied on how successful the target of the profile was on three domains: social relationships, intelligence and monetary potential. These three domains were manipulated in the “about me” section only of the fictitious Facebook profile to limit the introduction of confounds and error variance.

Those in the Upward Social Comparison condition viewed a profile in which the target was in committed relationship for an extended period of time and showed a listing of multiple successful relationships with family members (i.e., successful relationships). Additionally, the target was an engineering major, attending Harvard University and interning with an efficient engineering company in Massachusetts (i.e., high intelligence and high monetary potential). The target also had quotes from a variety of scholarly authors and expressed great interest in each author (i.e., high intelligence).

Those in the Downward Social Comparison condition viewed a Facebook profile with a target that had been single for an extended period of time and showed no listings of successful relationships with family members (i.e., unsuccessful relationships). The profile indicated that the target was majoring in Hotel and Restaurant Management, attending Penn State and working at McDonalds (i.e., low intelligence and low earning potential). The target also had a variety of popular culture quotes listed (i.e., low intelligence).

After viewing the assigned Facebook profiles, participants completed a series of questionnaires designed to assess the extent to which the induced social comparison affected participants in the various domains of interest. .

Measures

Self and target evaluations. This author-generated questionnaire assessed the extent to which the participants felt regarding the domains manipulated in the Facebook profiles in reference to themselves and the target. The questionnaire included objective and subjective questions with both scale and open-ended responses. In regards to success in social relationships, we asked participants about their success in maintaining committed relationships, now and in the future, and the amount of dates they have been on in the past five years. A sample item reads, “How

successful have you been in maintaining friendships in the past?" Regarding monetary potential, we asked participants the number of people employed after graduation in their chosen field, starting and peak salary in their chosen field, the amount of money participant's currently make and how much they think they will make once they graduate. A sample item reads, "How much money do you think that you will earn once you graduate from college?" Regarding intelligence, we asked participants about their performance in school now and in the future, received number of A's and how intelligent they found themselves to be.

State self-esteem scale (Heatherton, 1991). The state self-esteem questionnaire was designed to assess state self-esteem, $\alpha = .41$. A sample item reads, "I feel confident about my abilities." Further questions were asked referencing performance, social and appearance self-esteem. The scale contains 20 items on a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). Higher scores on this scale indicate higher state self-esteem.

Perceived fairness of life (Chou et al. 2012). This questionnaire contained questions regarding the perceived fairness of the participant's life and the lives of his/her peers, $\alpha=.45$. A sample item reads, "Many of my friends are happier than me." Further questions were asked regarding how fair the participant felt their life was and the extent to which their friends had better lives than they did. The scale contains 3 items rated on a 10-point scale ranging from 1 (*strongly disagree*) to 10 (*strongly agree*).

Results

Data was analyzed using a series of 2 (Social Comparison: upward vs. downward) × 3 (Instruction Type: accurate vs. inflated vs. control) between subjects factorial ANOVAs.

Self-esteem

The ANOVA revealed a main effect of comparison type on self-esteem $F(1,269) = 3.26$, $p = .07$, $\eta_p^2 = .01$. Specifically, participants in the Upward Social Comparison condition reported significantly lower self-esteem ($M = 17.75$, $SD = 2.21$) than those in the Downward Social Comparison condition ($M = 18.25$, $SD = 18.252.38$). No other significant effects emerged, *p*'s > .05.

Additionally, a main effect was found regarding the participant's perceived fairness of life $F(1,269) = 5.01$, $p = .02$, $\eta_p^2 = .01$. That is, participants in the Upward Social Comparison condition ($M = 4.85$, $SD = 2.43$) reported that their friends were happier than them compared to those in the Downward Social Comparison condition ($M = 4.21$, $SD = 2.26$). No other significant effects emerged, *p*'s > .05.

Intelligence

An ANOVA revealed a significant main effect of comparison type for reported intelligence $F(1,269) = 17.75$, $p < .001$, $\eta_p^2 = .06$. Those in the Upward Social Comparison condition reported lower levels of intelligence ($M = 4.43$, $SD = 1.54$) than participants in the Downward Social Comparison condition ($M = 5.10$, $SD = 1.03$). No other significant effects emerged, *p*'s > .05.

I found a main effect of comparison type on academic performance, $F(1,269) = 29.05$, $p < .001$, $\eta 2 = .09$. Specifically, participants in the Upward Social Comparison condition reported lower levels of school performance ($M = 4.38$, $SD = 1.33$) than participants in the Downward Social Comparison condition ($M = 5.20$, $SD = 1.17$). Regarding the amount of A's received – grades between 100% and 90%- at end of term report by participants, there was a significant main effect of comparison type $F(1,245) = 26.81$, $p < .001$, $\eta 2 = .09$. Specifically, participants in the Upward Social Comparison condition ($M = 3.84$, $SD = 1.44$) reported receiving less A's than those in the Downward Social Comparison condition ($M = 4.66$, $SD = 1.48$). We also found a

main effect of comparison type when participants were asked about future performance in school $F(1,269) = 27.27$ $p < .001$, $\eta 2 = .09$. Specifically, participants in the Upward Social Comparison condition reported worse future academic performance ($M = 4.78$, $SD = 1.40$) than people in the Downward Social Comparison condition ($M = 5.56$, $SD = 1.15$).

Monetary Potential

An ANOVA revealed a main effect of comparison type when participants were asked about monetary earnings after college graduation $F(1,269) = 35.70$, $p < .001$, $\eta 2 = .11$. Specifically, participants in the Upward Social Comparison condition ($M = 4.54$, $SD = 1.39$) felt they would make less money once completing college than those in the Downward Social Comparison condition ($M = 5.46$, $SD = 1.12$). Regarding current monetary earnings, we also found a main effect of social comparison, $F(1,269) = 12.80$, $p < .001$, $\eta 2 = .04$. That is, participants in the Upward Social Comparison condition reported lower current earnings ($M = 2.97$, $SD = 1.62$) than people in the Downward Social Comparison condition ($M = 3.71$, $SD = 1.80$). Regarding future peak salary, we found a main effect of social comparison $F(1,269) = 31.29$, $p < .001$, $\eta 2 = .10$. This suggests that participants in the Upward Social Comparison condition reported lower peak salaries after graduation condition ($M = 4.69$, $SD = 1.40$) than those in the Downward Social Comparison condition ($M = 5.59$, $SD = 1.22$).

Social Relationships

The ANOVA revealed a main effect of comparison type when participants were asked about the success of their committed relationships, $F(1,269) = 6.92$, $p = .009$, $\eta 2 = .02$. Participants in the Upward Social Comparison condition ($M = 4.49$, $SD = 1.74$) reported less success in past committed relationships than those in the Downward Social Comparison condition ($M = 5.03$, $SD = 1.68$). When participants were asked about success at maintaining past committed re-

lationships, we found a main effect of comparison type $F(1,269) = 9.79$, $p = .002$, $\eta 2 = .03$. This suggests that participants in the Upward Social Comparison condition reported lower success at maintaining committed relationships ($M = 5.11.$, $SD = 5.12$) than participants in the Downward Social Comparison condition ($M = 5.63$, $SD = 5.64$). When questioned about the amount of dates the participant had been on in the past, we found a main effect of comparison type $F(1,269) = 4.00$, $p = .04$, $\eta 2 = .01$. This finding suggests that participants in the Upward Social Comparison condition reported having been on less dates ($M = 3.58$, $SD = 1.86$) than those in the Downward Social Comparison condition ($M = 4.04$, $SD = 1.92$).

Discussion

We had hoped to find that people making an Upward Social Comparison would feel significantly worse than people making a Downward Social Comparison when viewing the fictitious profiles. We also hoped to find that participants told that people do not self-present on Facebook would be significantly less affected by the induced social comparison than people not given any information regarding self-presentation tendencies online. Finally, we hoped to find that people told that self-presentation does not occur on Facebook and were viewing the profile designed to induce an Upward Social Comparison would report feeling significantly worse about their lives than people told self-presentation does occur online or participants not given any information regarding self-presentation tendencies online and who viewed the profile designed to induce an Upward Social Comparison.

Our hypotheses were partially supported. We found that people do socially compare themselves to others online similarly to face-to-face interactions. Our results suggest that simply looking at a Facebook profile for a short period of time can lead to negative perceptions in domains of educational, employment, and relationship success. Our participants spent very little

time evaluating our fictitious profiles and the domains that we manipulated. However, even with such limited exposure, we found significant negative effects regarding their perceived intelligence, future and current monetary potential and relationship success. Since all of our participants were randomly assigned into our conditions, this suggests that this effect was due to the induced social comparison. The items we view on Facebook could negatively alter the way we view ourselves and negatively affect our future actions.

Implications

These results may have negative impacts on people using social networking sites like Facebook. For example, if the viewer observes the profile before an important life event (e.g., job interview or examination) and an upward social comparison is made during this short observation, the viewer may feel less competent in certain domains and may therefore result in a negative performance in the job interview or examination. This could potentially occur in a similar way if the person views a Facebook profile and a downward social comparison is made. The viewer may feel more competent in certain domains and perform better in the job interview or examination.

This study was could shed light on the notion that high Facebook users tend to feel worse about their lives than low Facebook users. If people are spending extended amounts of time on Facebook and continuously making Upward Social Comparisons, the more time a person spent on Facebook making these Upward Social Comparisons the worse they would feel about their lives. This study was also one of the first studies to include online social comparison manipulation.

Our results suggest that awareness of others self-presentation tendencies online does not attenuate online social comparison effects. There are several potential reasons why our self-

presentation manipulation instructions did not have the desired effect. One possible reason is that our instructions were not convincing enough for our participants, and so they felt no adjustment was necessary. Another possible reason could be that our participants could not make the appropriate adjustment because of the strength of the comparison manipulation (upward versus downward). It could be that participants were paying more attention to the social comparison and less attention to the self-presentation tendencies of others. The areas we manipulated in the Facebook profile were highly prevalent to most college students; perhaps we made the social comparison manipulation too prevalent and the self-presentation tendencies not prevalent enough. A third possible reason could be that there was too much emphasis placed on the cover story that our participants viewed before our instructions. Our cover story emphasized the importance of looking over the Facebook profile in detail; it told participants that questions at the end would refer back to the profile and require them to recall different facts from the profile itself. It is possible we put too much emphasis on the cover story and making sure that they viewed the Facebook profile in depth. Participants may have been more concerned with remembering different aspects of the Facebook profile that they did not keep in mind the self-presentation information while they filled out the questionnaires. They may have been more focused on the cover story information and deemed the self-presentation information as less important.

Limitations and Future Research

The current study had some limitations. Like most psychological research, our participants were limited to undergraduate psychology students limiting generalizability. That said, individuals of these age ranges are likely to be some of the most active users of technologies like Facebook. Additionally, the study may have lacked ecological validity in that participants did not actually go on Facebook and interact with real profiles. Instead participants viewed

a static profile. Another limitation to consider is our control condition. Participants in both the Inflated Instruction condition and the Accurate Instruction condition read a paragraph discussing the self-presentation tendencies of others online; however, our control condition did not receive any self-presentation information, causing our control condition to be fundamentally different that our other conditions. This lack of consistency across all conditions may have affected the outcome of our results.

Due to the limitations of this study, future studies could examine ecological validity, our moderator variables, control condition or gender differences. Future research should involve participants actually interacting with live Facebook pages that are owned by real individuals. Participants could then make comparisons throughout the entire profile (e.g., pictures, posts) rather than solely focusing on the about me section. Moreover, future studies could further investigate our moderator variables. One could examine the effects Facebook intensity and Facebook addiction may have on a person and how it affects their social comparison process and understanding of self-presentation. For example, the extent to which a person is likely to socially compare themselves to others may impact the magnitude of social comparison effects. One could also consider creating a control condition where participants read information regarding a neutral view on self-presentation tendencies online, as to keep all conditions consistent in amount of information received and read. Additionally, future research should investigate the role of gender in online social comparison. Men and women may engage in online social comparison in different ways.

Conclusion

The results from this study add to research indicating that high Facebook users feel worse about their lives than low Facebook users, because they are using the availability heuristic;

this heuristic states that high level Facebook users are basing judgments on examples most easily recalled to them (Chou et al.,2012). People that are on Facebook extensively are likely to recall information they view on Facebook more readily than those who do not use Facebook as much. If this information is an inaccurate measure of the person's life, it could create inaccurate judgments of others. The current study would also further explain the idea of correspondence bias. This idea states that Facebook users tend to connect positive information found on Facebook to the target's personality instead of to situational factors (Chou et al., 2012). Since people are associating these positive life events to the target's personality, and not to coincidental situational factors, an upward social comparison is more likely to be made, and, in turn, result in negative emotions. If these positive life events are a result of self-presentation, attaching them to the target's personality is inappropriate, causing the social comparison and following negative emotions to be inappropriate, as well. If a person uses Facebook highly intensely, these negative emotions could arise extremely frequently and affect the user's life negatively on a regular basis. It could negatively change the way they view themselves on Facebook, the way they view the real world and their role in it.

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Appendix A

The Inflated instructions (115 words): Despite what you may have heard, recent studies have indicated that social networking profiles such as Facebook are **not accurate** representations of individuals. That is, you are **unlikely** to get an accurate sense of who an individual is by examining the information presented on their Facebook profile. Dr. Greene and his colleagues (2013) conducted a research study that examined whether or not the profiles of random Facebook users could be used to accurately identify the personality characteristics of their owners and represent a true sense of the quality of their life. Results confirmed that Facebook profiles are an **inaccurate** measure of someone's personality and are a **poor** measure of the quality of life individuals lead.

The Accurate Instructions (112 words): Despite what you may have heard, recent studies have indicated that social networking profiles such as Facebook are **accurate** representations of individuals. That is, you **can get** an accurate sense of who an individual is by examining the information presented on their Facebook profile. Dr. Green and his colleagues (2013) conducted a research study that examined whether or not the profiles of random Facebook users could be used to accurately identify the personality characteristics of their owners and represent a true sense of the quality of their life. Results confirmed that Facebook profiles are an **accurate** measure of someone's personality and are a **good** measure of the quality of life individuals lead

The two instructions describing self-presentation tendencies were kept as similar as possible, with only changing a few minor words. This was done to keep consistency across the two conditions, in hopes that if significance was found it would be due to participants making adjustments for the Facebook profiles and not due to the persuasion of one instruction condition over the other.